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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/099,953	03/19/2002	Yasuhiro Ayukawa	1517-0138P	6331

2292 7590 07/11/2005

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EXAMINER

GAKH, YELENA G

ART UNIT	PAPER NUMBER
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1743

DATE MAILED: 07/11/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/099,953

Applicant(s)

AYUKAWA ET AL.

Examiner

Yelena G. Gakh, Ph.D.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 13 June 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 5,6,9-11,20 and 21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☐ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 03/24/05.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

1. RCE filed on 06/13/05 and amendment filed on 05/16/05 are acknowledged. The amendment to the claims is entered. Claims 2-22 are pending in the application, of which claims 5-6, 9-11 and 20-21 are withdrawn from consideration.

Specification

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. The specification is objected to as not being written "in such full, clear, concise, and exact terms as to enable any person skilled in the art to" to practice the invention in its best mode. It appears to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors. Not only the language of the specification is unclear and confusing, the subject matter of the disclosure is not readily apprehensible.

A term the "liquid catalyst" used throughout the specification is erroneous and misleading, and appears to be an incorrect translation from Japanese. It completely contradicts the conventional meaning of the word "catalyst", and renders the specification unclear and indefinite.

Further, the specification discloses: "first, a silver nitrate solution having silver nitrate dissolved in a solvent is mixed with a sodium acetate solution having sodium acetate dissolved in the solvent, to form silver acetate. Then, the mixed solution is subjected to first filtration to remove the silver acetate. Then, the solution is irradiated with electromagnetic waves or corpuscular rays to precipitate silver sulfide-containing silver compounds and silver. Then, the solution is subjected to second filtration to remove the silver compounds and silver. Then, a nitrogen gas is allowed to flow into the solution to remove dissolved oxygen. Finally, an aldehyde or ammonia is added for preventing oxidation and improving the long-term shelf life" (page 3, lines 23-28 and page 4, lines 1-6). First, silver acetate is precipitated from the mixture

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of silver nitrate and sodium acetate only under certain conditions, i.e. when “a concentrated solution of either silver ion or acetate ion is added to the mixture”, see “Solubility of Silver Acetate”. Second, if silver acetate is removed from the solution, then what is remained in it? How irradiating the solution with electromagnetic waves or X-rays can cause precipitation of sulfide-containing silver compounds and silver, if there is no metal silver or sulfur in the solution to begin with?

The rest of the specification concerning the preparation of the oil sample for X-ray fluorescence analysis, as well as the analysis itself is written in the same unclear and indefinite language and is not readily comprehensible.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 22, 2-4, 7-8 and 12-19 are rejected under 35 U.S.C. 112, first paragraph, because the specification, while being enabling for the solvent comprising sulfur, does not reasonably provide enablement for the solvent, which does not comprise sulfur. The specification does not enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to practice the invention commensurate in scope with these claims. In order to precipitate silver sulfide from the mixed solution of silver nitrate and sodium acetate, at least one solvent of the silver nitrate or sodium acetate solution must contain sulfur.

For claims 22, 2-3, 7, 12, 14, and 17 the product and the method of its production are enabled only when the starting solution is irradiated with electromagnetic waves of a very specific wavelength range, i.e. “X-rays having longer wavelength than the L absorption edge wavelength of silver and containing the absorption edge wavelength of sulfur”. The specification does not disclose any other electromagnetic waves to be capable of precipitating silver acetate.

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter, which the applicant regards as his invention.

7. Claims 22, 2-4, 7-8 and 12-19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 22 is apparently rendered to the product made by the process. However, the preamble of the claim does not explicitly recites this, which makes it unclear as to what the steps of the method refer to. Moreover, it is not clear, how is it possible to precipitate silver sulfide, if only solutions of silver nitrate and sodium acetate are provided in the first step? Where are the sulfide ions coming from? Also, what is "silver, which is removed from the mixed solution"? How did silver get into the solution, when only silver ions were present in the solution in the beginning? Since formation of silver acetate is not an intentional step of the method, the examiner suggests using "if" in front of "precipitated", because only if silver acetate is accidentally precipitated (for which the special conditions should exist, as it was indicated previously), then it has to be removed from the solution. Also, it is not clear from the claim, which irradiation is capable of precipitating silver sulfide from the solution.

In claims 2, 4, 8, 13, 15 and 18 it is not clear as to why there should be sulfur present in the solution, if the solvent is a C₁₋₈ alcohol?

Claim 3 is completely unclear. Claim 22 already comprises the steps of removing the silver acetate and irradiating the solution with electromagnetic waves. Are these steps meant to be repeated again?

Claim 7 it is not clear as to what "sulfur compounds" might be. Are they silver sulfides, or are they "other sulfur compounds"? If they are "other sulfur compounds", it is not apparent, which compounds these might be, and how were they precipitated? Also, claim 7 should recite "said oil sample" in the body of the claim, since it is the same oil sample recited in its preamble.

The method of claim 14 is not clear. What is precipitated by irradiating the stirred solution? Which silver compounds? Why is this the "method of preparing an oil sample for X-ray analysis"? The claim appears to recite the method of adding silver compounds to the oil sample in order to remove the silver compounds from the oil sample, which does not make much sense. Are these silver compounds the compounds comprising silver sulfide, according to claims

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15 and 16? Also, if silver sulfide is completely removed from the oil sample, how the oil sample can be analyzed for determining the concentration of sulfur in it? The claim is not apparent.

Claims 17-19 have similar problems.

Response to Arguments

8. Applicant's arguments filed 05/16/05 have been fully considered but they are not persuasive.

The specification is not amended regarding its confusing terminology and unclear and indefinite disclosure. The specification is obviously a bad translation from Japanese, which is difficult to read and understand. The specification needs to be re-written in order to make the disclosure comprehensible.

From the specification it does not follow that there is no intention to precipitate silver acetate from the mixed solution of silver nitrate and sodium acetate. It does not indicate that silver acetate should be removed, **if** precipitated from the solution.

The Applicants' remark that "pure solutions which do not contain sulfur components cannot be completely obtained" is not clear. Which solutions are meant here? Solutions based on petroleum products as solvents? With this the examiner can agree. However, it is not what is claimed. What are claimed in most claims are the solutions of silver nitrate and sodium acetate, which should not contain any sulfur.

It is not clear, how metal silver can be "created" from the solutions recited in the claims?

The examiner suggests rewriting the specification in a clear and definite language without adding a new matter. The examiner will accept rewritten disclosure, if the purpose is clarifying the subject matter of the invention.

All rejections of the claims under first and second paragraphs of 35 U.S.C. 112 should be responded and the claims should be amended correspondingly.


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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Yelena G. Gakh, Ph.D. whose telephone number is (571) 272-1257. The examiner can normally be reached on 9:30 am - 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jill A. Warden can be reached on (571) 272-1267. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

7/6/05


YELENA GAKH
PRIMARY EXAMINER